

THAT WHICH IS CLAIMED:

1. An enhanced services system comprising:

a processor capable of receiving provisioning data using a first interface, the provisioning data including a service identifier and a subscriber identifier, the processor capable of retrieving a host file using a second interface and deriving a host-specific provisioning message using the host file, the processor capable of transmitting the host-specific provisioning message using a third interface operatively connected to a digital communication network wherein the digital communication network is further connected to a host; and

a memory storage operatively connected to the second interface, capable of storing the host file, the host file associated with both a host type and a service identifier, the memory storage further capable of storing an association between a host address and the host type, the memory storage further capable of providing the host-specific file to the processor in response to a request from the processor.

2. The system of claim 1 wherein the provisioning data received using the first interface is from a billing system.
3. The system of claim 2 wherein the service identifier is a billing code.
4. The system of claim 1 wherein the provisioning data received using the first interface is from a provisioning input system.

5. The system of claim 1 wherein the processor derives the host-specific provisioning message dynamically using a service parameter data file associated with the service identifier.
6. The system of claim 2 wherein the processor derives the host-specific provisioning message statically by extracting the host-specific provisioning message from the host file.
7. The system of claim 1 wherein the digital communication network is a cable service network.
8. The system of claim 1 wherein the host is integrated in a digital television.
9. The system of claim 1 wherein the host type is associated with a host manufacturer and a host model of the host manufacturer.
10. The system of claim 1 wherein the host address is a MAC address.
11. The system of claim 1 wherein the request from the processor to the memory storage includes the host address and the service identifier.
12. The system of claim 1 wherein the request from the processor to the memory storage includes a subscriber identifier, the subscriber identifier comprising one from the group of subscriber account number, subscriber telephone number, subscriber name, and host identifier.

13. The system of claim 1 wherein the memory storage stores a table associating a subscriber identifier to one or more host addresses.
14. The system of claim 1 wherein the memory storage stores a table associating a subscriber identifier to one or more host types.
15. The system of claim 1 wherein the third interface is operatively connected to a cable headend, the cable headend further operatively connected to the digital communication network.
16. The system of claim 13 wherein the processor transmits the host-specific message using the host address as a destination address for the host-specific message.
17. The system of claim 1 wherein the service identifier results in the provisioning message configuring an enhanced cable service.
18. The system of claim 1 wherein the host-specific provisioning message is transmitted to the host on the digital communication network using an out-of-band channel.
19. The system of claim 1 wherein the host-specific provisioning message is transmitted to the host on the digital communication network using a DOCSIS based channel.

20. The system of claim 1 wherein the host-specific provisioning message commands the host to tune to an indicated channel to receive additional provisioning messages.

21. The system of claim 1 wherein the service identifier is associated with one from the group of a digital video programming recording service, a telephony service, and a high speed Internet access service.

22. An enhanced services system comprising:

a processor having a first interface, the processor capable of receiving an activation message, the processor capable of retrieving a host file using a first interface in response to the activation message and transmitting a provisioning message to a host using a second interface; and

a memory storage operatively connected to the first interface, capable of storing the host file comprising at least one configuration message, the host file associated with both a host type and a service identifier, the memory storage further capable of storing an association between a host address and the host type, the memory storage further capable of providing the host file to the processor in response to a request from the processor.

23. The system of claim 22 wherein the activation message is received from a host, the activation message further including a host identifier.

24. The system of claim 23 wherein the activation message further includes a host type identifier.

25. The system of claim 23 wherein the host identifier comprises a host address.
26. The system of claim 22 wherein the activation message is received from a provisioning system, the activation message further includes a transaction reference number identifying a previously indicated provisioning transaction.
27. The system of claim 22 wherein the host file contains a legacy-based configuration or command message.
28. The system of claim 22 wherein the host file contains a host-specific configuration message.
29. The system of claim 22 wherein the host type is associated with a host manufacturer identifier and a host model identifier.
30. The system of claim 22 further comprising:  
a cable network operatively connected to the second interface, the cable network receiving the activation message from a host and conveying the activation message to the processor, the cable network further receiving the provisioning message and conveying the provisioning message to the host.

31. The system of claim 30 wherein a cable headend receives the provisioning message, the cable headend connected to the cable network.
32. The system of claim 30 wherein the provisioning message is sent out-of-band.
33. The system of claim 30 wherein the provisioning message is sent using a DOCSIS based channel.
34. The system of claim 22 wherein the host type is determined using a host identifier in the activation message.
35. The system of claim 22 where the host file is determined in part by a service identifier indicated to the processor by a provisioning input system.
36. The system of claim 22 wherein the provisioning message configures a digital video programming service on a cable network.
37. The system of claim 22 where the provisioning message is an enhanced services configuration message.
38. The system of claim 22 further comprising:

a billing system operatively connected to the process capable of receiving a second provisioning message comprising a host address and an indication that the provisioning message was transmitted to the host.

39. The system of claim 22 wherein the provisioning message indicates to the host to tune to another channel to receive in-band data.

40. The system of claim 39 wherein the in-band data comprises either application software or audio data.

41. The system of claim 22 wherein the provisioning message enables a host to decode video programming signals.

42. The system of claim 22 wherein the provisioning message enables the host to receive data from the Internet.

43. The system of claim 22 wherein the host is integrated in a digital television.

44. The system of claim 22 wherein the host is embodied in a set top box.

45. An enhanced services system comprising:

a processor capable of receiving a host file comprising a host protocol file associated with a host type and a service data file comprising service related parameters for an identified service

provided over a cable network, the processor capable of processing the host file and the service data file to produce at least one host-specific configuration message for configuring a host for the identified service; and

a database operatively connected to the processor, the database storing the host file, an association of the host file with a host type, the service data file, and an association of the service data file with a service identifier.

46. The system of claim 45 further comprising a cable headend, operatively connected to the processor, capable of receiving the at least one configuration message.

47. The system of claim 46 further comprising a cable distribution network, operatively connected to the cable headend, capable of receiving the at least one configuration message.

48. The system of claim 47 further comprising a host, operatively connected to the cable distribution network, the host identified by the host address.

49. The system of claim 45 wherein the identified service corresponds to a billing code.

50. The system of claim 45 wherein the host file is further associated with a service identifier.

51. The system of claim 45 wherein the host type is associated with a host manufacturer and a host model of the host manufacturer.



52. The system of claim 45 wherein the server is capable of receiving a service identifier associated with a service provided on a cable network, the server further capable of communicating the service identifier to the database, the database further associating the service identifier to the host file.

53. The system of claim 52 wherein the service identifier is sent from a billing system operatively connected to the server.

54. The system of claim 52 wherein the service identifier is sent from a provisioning input system operatively connected to the server.

55. A provisioning system comprising:

a server receiving a host protocol file comprising a configuration message associated with a certain host type, the server receiving a host profile file comprising feature descriptors of the certain host type, the server receiving a service parameter data file associated with a certain service provided on a cable network, the server displaying to a user host feature data from the host profile file, receiving user input, and processing the service data file, the user input, and the host protocol file to produce at least one host-specific configuration message; and

a memory for storing the at least one host-specific configuration message, the memory associating the host-specific configuration message with a service identifier and the certain host type.

56. The system of claim 55 wherein at least one configuration message is a legacy configuration message enabling a host to decode and decrypt a channel containing a video programming channel.
57. The system of claim 55 wherein the input from the user provides data to define operation of the certain service on a cable system.
58. The system of claim 55 wherein the certain service is associated with a billing code.
59. The system of claim 55 wherein the service data parameter file includes network default parameters.
60. A system comprising:
- an enhanced services server capable of requesting a host file associated with a first identifier and a service indicator, the host file comprising at least one configuration message used by the enhanced services server to configure a host for a service associated with the service indicator; and
  - an enhanced services database operatively connected to the enhanced services server, the enhanced services database capable of receiving the request comprising the first identifier and the service indicator from the enhanced services server, the enhanced services database identifying a host type associated with the first identifier and retrieving the host file from a memory wherein the host file is associated with both the host type and the service indicator, the enhanced services database communicating the host file to the enhanced services server.

61. The system of claim 60 further comprising:  
a billing system operatively connected to the enhanced services server capable of communicating the service indicator and the first identifier to the enhanced services server.
62. The system of claim 60 wherein the first identifier comprises a host address.
63. The system of claim 60 further comprising:  
a cable distribution network operatively connected to the enhanced services server and capable of receiving the at least one configuration message transmitted by the enhanced services server.
64. The system of claim 60 wherein the host file comprises a host protocol file and a host profile file.
65. The system of claim 60 wherein the host file comprises application software to be downloaded to a host.
66. The system of claim 60 wherein the host identifier is associated with a particular host brand associated with a manufacturer of the host.

67. The system of claim 60 wherein the service pertains to one of a personal video recording service, a telephony-related service, a music on demand service, and a high speed data service.

68. The system of claim 60 wherein the enhanced service is associated with a billing code in a cable billing system.

69. The system of claim 68 wherein the enhanced services server conveys the configuration message to the host using a DOCSIS channel.

70. The system of claim 60 further comprising:  
a cable headend, operatively connected to the enhanced services server, the cable headend capable of receiving the host protocol file from the enhanced services server.

71. The system of claim 60 further comprising a host connected to the cable headend, the host capable of receiving at least part of the host protocol file from the enhanced services server.

72. The system of claim 71 wherein the host is capable of identifying itself to the cable headend triggering communication of the host protocol file to the host.

73. The system of claim 72 wherein the host is capable of identifying itself to the cable headend upon application of power to the host by a cable subscriber.

74 The system of claim 60 wherein the host is capable of identifying itself to the cable headend triggering the communication of the host protocol file from the enhanced services database to the enhanced services server.

75. The system of claim 60 further comprising:

a billing system operatively connected to the enhanced services server, the billing system capable of communicating a billing code to the enhanced services server.

76. The system of claim 75 wherein the billing system is capable of receiving a billing code from a provisioning input system.

77. The system of claim 60 further comprising:

a billing system operatively connected to the enhanced services server, the billing system capable of receiving a service identifier from the enhanced services server.

78. A system for provisioning a cable system with service related information, comprising:

a billing processing system capable of storing a billing code associated with a service, the billing system capable of transmitting the billing code over an interface; and

an enhanced services system operatively connected to the interface to communicate with the billing processing system, the enhanced services system comprising a server and database, the enhanced services system capable of receiving the billing code, the database capable of storing a plurality of host files wherein each host file is associated with a host type, the database

further capable of storing a file listing host addresses, wherein each host address is associated with a host.

79. The system of claim 78 further comprising:

a provisioning input computer system operatively connected to at least one of the billing processing system or the enhanced services system providing a service indication associated with the billing code.

80. The system of claim 78 wherein the host file comprises at least one from the group of application software to be communicated to the host, parameters to be configured in the host, and protocol messages for communicating with the host.

81. The system of claim 78 further comprising:

a local area network operatively connecting the billing processing system and the enhanced services system.

82. The system of claim 78 wherein the host is identified by an identifier corresponding to a particular host model of a host manufacturer.

83. The system of claim 78 wherein the enhanced services system stores a service script in a memory, the service script associated with a service code.

84. The system of claim 78, further comprising:

a cable headend operatively connected to a cable distribution network, the cable headend operatively connected to the billing system and the enhanced services system, the cable headend capable of receiving the host file from the enhanced services system.

85. The system of claim 78 further comprising:

a host operatively connected to the cable distribution network, the host capable of receiving the host file.

86. The system of claim 80 wherein the host comprises a memory for storing the host file and a processor for executing the host file.

87. A system for provisioning comprising:

a host, capable of receiving a configuration message upon activation of the host;  
a cable distribution network, operatively connected to the host, capable of transmitting the configuration message to the host;  
a cable headend, operatively connected to the cable distribution network, the cable headend capable of transmitting the configuration message to the cable distribution network; and  
an enhanced services system storing a plurality of host files, the enhanced services system further associating a host type and a service identifier with each host file, wherein the host type comprises a host manufacturer identifier and a host model identifier associated with the host manufacturer, the enhanced services system further associating a host address with the host type, the enhanced services system selecting the host file from the plurality of host files based on

part the service identifier, the enhanced services system determining a configuration message from the selected host file and transmitting the configuration message to the cable headend.

88. The system of claim 87 wherein the configuration message enables a host to process a video programming service.

89. The system of claim 87 wherein a provisioning input system provides provisioning data to the enhanced services system.

90. A method for provisioning a host comprising:

receiving at an enhanced services system a service identifier and a first identifier associated with a specific host;

determining a host type using the first identifier, the host type determined in part by accessing a table in memory associating the first identifier with the host type wherein the host type is associated with both a host manufacturer identifier and a host model identifier;

retrieving a host file from a memory wherein the host file is associated with both the host type and the service identifier;

determining a configuration message from the host file; and

sending the configuration message from the enhanced services system to a host.

91. The method of claim 90 further comprising:

receiving at a billing system the service identifier and the first identifier from a provisioning input system; and



sending the service identifier and the first identifier to the enhanced services system.

92. The method of claim 91 wherein the first identifier comprises either a subscriber identifier or a host identifier.
93. The method of claim 90 wherein the host file comprises a host protocol file.
94. The method of claim 93 wherein the enhanced services system determines the configuration message dynamically from the host file.
95. The method of claim 94 wherein the enhanced services system uses the service identifier to determine a file comprising service parameter data used in part to determine the configuration message.
96. The method of claim 93 wherein the enhanced services system determines the configuration message statically from the host file.
97. The method of claim 90 wherein the configuration message is a legacy based message, wherein the legacy based message is capable of configuring a plurality of host types.
98. The method of claim 90 wherein the configuration message configures the host for an enhanced video programming service.

99. The method of claim 90 wherein the step of sending the configuration message from the enhanced services server to the specific host comprises sending the configuration message from the enhanced services server to a cable headend, the cable headend sending the configuration message over a cable network to the specific host.

100. The method of claim 90 further comprising:

generating an activation message from the host, the activation message comprising a host address.

101. The method of claim 90 further comprising:

associating the first identification number with a transaction reference number; and  
generating an activation message from the host, the activation message comprising a transaction reference number.

102. The method of claim 101 further comprising:

determining a provisioning transaction maintained in the memory of the enhanced services system, the provisioning transaction associated with the transaction reference number.

103. The method of claim 90 wherein the host is integrated with one of the group of digital television, personal video recorder, cable set top box, video game console, cable modem, home gateway, and personal computer.

104. The method of claim 90 wherein the configuration message enables the host to receive application software.

105. The method of claim 90 wherein the configuration message is sent using one of the group of DOCSIS based channel, out-of-band channel, and in-band channel.

106. A method for provisioning a host comprising:

receiving at an enhanced services system a service identifier and a first identifier associated with a specific host;

storing the service identifier and the first identifier in a provisioning transaction file in a memory;

associating the provisioning transaction file with a second identifier;

receiving an activation message at the enhanced services system including the second identifier;

retrieving the provisioning transaction file from memory;

determining a host type using the first identifier, the host type determined in part by accessing a table in memory associating the first identifier with the host type wherein the host type is associated with both a host manufacturer identifier and a host model identifier;

retrieving a host file from memory wherein the host file is associated with both the host type and the service identifier;

determining a configuration message from the host file; and

sending the configuration message from the enhanced services system to a host.

107. The method of claim 106 wherein the activation message is generated by the host.
108. The method of claim 107 wherein the second identifier comprises at least one of a host address or a transaction reference number.
109. The method of claim 106 further comprising:  
receiving at a provisioning input system the service identifier and the first identifier; and  
sending the service identifier and the first identifier to the enhanced services system.
110. The method of claim 107 wherein the first identifier is a host address.
111. The method of claim 107 wherein the first identifier is a subscriber identifier.
112. The method of claim 107 wherein the first identifier is host identifier in the form of a host serial number.
113. A method for provisioning comprising:  
retrieving a host protocol file by a processor;  
retrieving a host profile file by the processor;  
the processor displaying at least one service parameter option associated with a service to a user;

generating a host file comprising at least one configuration message determined by the input received by the processor from a user that selects a value associated with the at least one service parameter option and the host protocol file;

storing the host file in memory;

associating the host file with a service identifier associated with the service; and

associating the host file with a host type wherein the host type is determined from either the host protocol file or host profile file.

114. The method of claim 113 wherein the host protocol file contains protocol messages for configuring a host, wherein the host is associated with the host type.

115. The method of claim 113 wherein the processor determines the message syntax based in part by the user input.

116. The method of claim 113 wherein the step of storing the host file in memory comprises storing the host file in a database of an enhanced services system.

117. The method of claim 113 wherein the host profile file contains at least one descriptor of a capability of a host, the host associated with the host type.

118. A method of provisioning a service comprising:

receiving a service indicator and a host identifier at an enhanced services server;

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determining in the enhanced services server a provisioning message based on the service indicator and the host identifier, the provisioning message determined in part by associating the host identifier to a host type wherein the host type identifies both a host manufacturer and a host model;

determining a host address using the host identifier;

sending the provisioning message from the enhanced services server to a cable headend to a host associated with the host identifier.

119. The method of claim 118 wherein the service indicator and the host identifier are generated by a provisioning input system.

120. The method of claim 119 wherein the service indicator and the host identifier are conveyed by the enhanced services server to a billing system.

121. The method of claim 118 wherein the service indicator and the host identifier are generated by a billing system.

122. The method of claim 118 wherein the host identifier includes the host address.

123. The method of claim 118 wherein the host address is determined by accessing a table associating the host identifier with a host address.

124. The method of claim 118 further comprising configuring the host associated with the host type, wherein the provisioning message is associated with the host type.

125. The method of claim 118 wherein the provisioning message is sent to the host using an out-of-band channel or a DOCSIS based channel.

126. The method of claim 118 wherein the provisioning message pertains to a digital cable service provided over a cable network, the digital cable service selected from the group of personal video recording, video on demand, telephony, or high speed data.

127. The method of claim 118 wherein the provisioning message enables the host to receive a second provisioning message via a DOCSIS based channel.

128. The method of claim 118 wherein the provisioning message is determined either dynamically or statically by the enhanced services server.

129. The method of claim 118 wherein the host identifier is determined by mapping the cable subscriber identifier to a host address using a table accessed by the enhanced services server.

130. The method of claim 129 wherein the service indicator and host identifier are provided by a call center associated with a cable service provider.